

Installation Form for Cooling Coil UV Light, Option UV2

Applies to: Models PDH, SDH, RDH with Cooling Module

Description and Application

Option UV2, germicidal ultra-violet light, is designed for installation in Reznor PREEVA Models PDH, SDH, and RDH with an optional cooling module that has either a DX or a chilled water coil. The light is installed in the blower section downstream from and facing the cooling coil. Option UV2 light requires a separate dedicated power source which may be 115V/1Ph, 208V/1Ph, or 230V/1Ph.

Read this entire instruction manual before beginning installation. Comply with all warnings and safety considerations.

Reznor, LLC cannot and does not guarantee that all organisms will be inactivated or killed or that use of Option UV2 light will prevent infection or illness. Additionally, the health aspects associated with the use of this product and its ability to aid in disinfection of environment air have not been investigated by UL.

Safety Considerations

Installation and servicing of air conditioning equipment can be hazardous due to system pressure and electrical components. Only trained and qualified service personnel should install, repair, or service air conditioning equipment.

Follow all safety codes. Wear safety glasses and work gloves and cover all exposed skin when installing or servicing ultra-violet light.

Definitions of Cautions, Warnings, and Dangers

HAZARD INTENSITY LEVELS

DANGER: Failure to comply will result in severe personal injury or death and/or property damage.

WARNING: Failure to comply could result in severe personal injury or death and/or property damage.

CAUTION: Failure to comply could result in minor personal injury and/or property damage.

WARNING

Improper installation, adjustment, alteration, service, or maintenance can cause property damage, personal injury, or death. A qualified installer or service agency must perform installation and service.

WARNING

Before installing or servicing an Option UV2 light, turn off the main power switch to both the light fixture and to the unit. Electrical shock can cause injury or death.

CAUTION

Use only the specified high-output, low temperature bulbs with this lamp. Use of a lower wattage or incorrect bulb can result in damage to the light and/or the bulb. (See replacement list on page 4.)

CAUTION

Never expose eyes or skin to ultra-violet light from any source. Light must be off before opening the door on the blower section, cooling coil module, optional mixing box, and optional evaporator cooling module. Never use the UV lamp for lighting.

Safety Considerations (cont'd)

CAUTION

Do not touch bulb glass without gloves. Oil from fingerprints will permanently etch glass of bulb and weaken structure. Clean bulb after handling.

CAUTION

Bulb contains a small amount of mercury. If a bulb breaks, clean with care and dispose of using an environmentally safe disposal method.

Location and Components

The Option UV2 light is factory-installed in the blower section, downstream of the cooling coil. PREEVA Sizes 75-150 have one light fixture; Sizes 175-400 have two. The bulb(s) are shipped in the blower section attached to each fixture but not installed for use. When handling a bulb, wear gloves and DO NOT TOUCH the glass; handle only on the ends.

In units with a DX coil, there will also be a parts bag containing three hole plugs. Field-supplied components include a disconnect switch, 14 gauge wiring, metal conduit or aluminum tape, and conduit connection or wire bushing.

Installation Instructions

1. Turn off all power to the unit. Open the blower and electrical compartment doors.
2. Ultra-violet light may damage certain plastics and exposed non-UVC protected wires. Any field-supplied wiring or plastics in the blower compartment must be wrapped with aluminum tape or installed in metal conduit.
3. A separate, dedicated power supply must be used for the Option UV2 light. Do not use unit wiring or control box connections.

Wiring must comply with national and local codes. Power source must be a suitable fused, grounded, protected source with

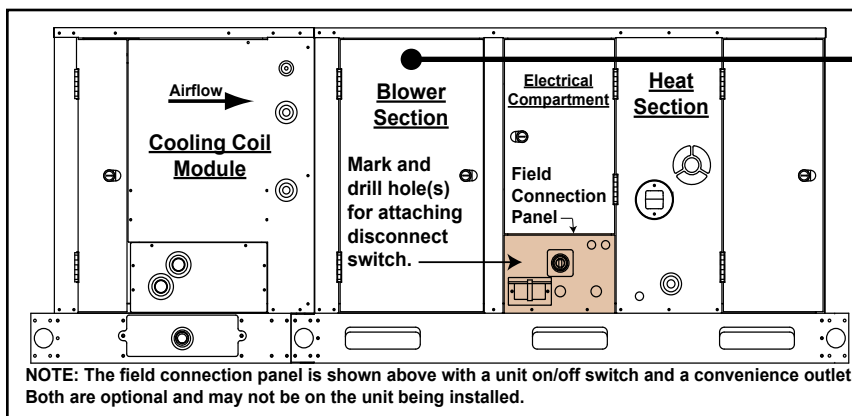
the correct voltage. Voltages other than 115/1, 208/1, 230/1 will permanently damage the lamp. Wire per **TABLE 1**.

TABLE 1 - Supply Wiring

Wiring	Wire Color
Power	Black
Neutral	White
Ground	Green

FIGURE 1 - Location and Installation of Field-Supplied Disconnect Switch

4. Install the field-supplied disconnect switch. See **FIGURE 1** and follow instructions.
 - a) Locate the field connection panel. Mark and drill hole(s) for attaching field-supplied disconnect switch



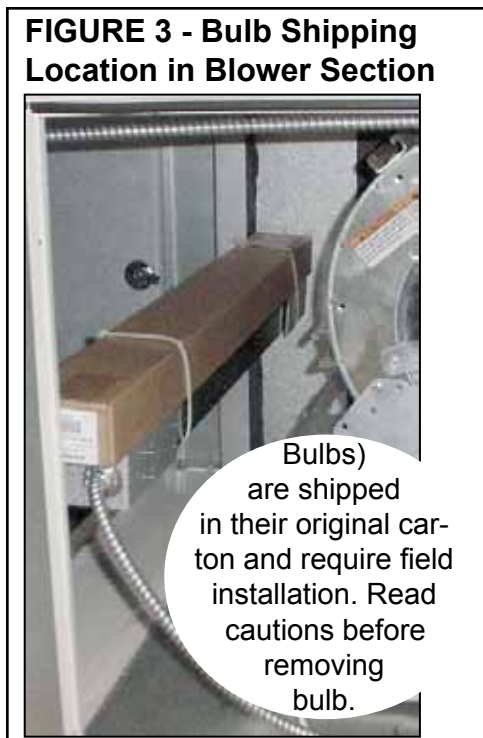
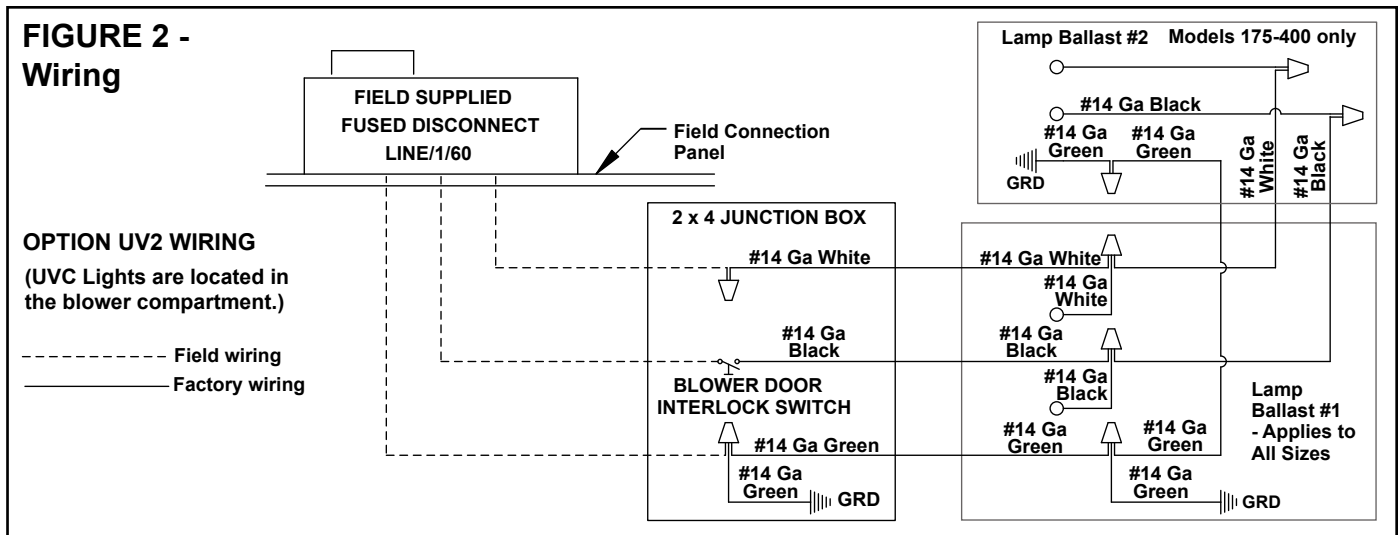
Example of one type of field-installed UV light disconnect switch



Factory-installed blower door safety interlock switch

Install disconnect switch wiring. Refer to the wiring diagram in **FIGURE 2**. Wiring must be 14 gauge. Run wires from the disconnect switch location through the factory-supplied conduit at the electrical compartment wall to the blower door interlock switch junction box.

- b) Refer to the wiring diagram in **FIGURE 2** and run field-supplied 14 gauge wiring from the disconnect switch location, through the factory-installed conduit, to the junction box for the blower door interlock switch.
- c) Install the disconnect switch and connect the wires.



5. Install the ultra-violet bulb(s).

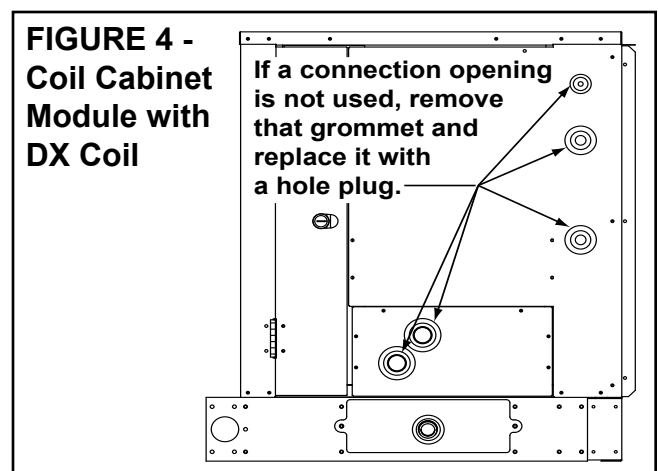
CAUTIONS

Do not touch bulb glass without gloves. Oil from fingerprints will permanently etch the glass and weaken bulb structure. Clean bulb after handling. Install the bulb BEFORE the power is applied. Installing the bulb while power is on will trigger the “end-of-lamp-life circuit”, and the bulb will not light. If this happens, shut off power, wait ten minutes, and turn power on. Bulb should light.

The bulb is shipped in its original carton which is cable tied to the installed light fixture. See **FIGURE 3**. Grasping only the ends of the bulb (not the glass), remove it from the package.

Using a lint free cloth and isopropyl alcohol, clean the bulb. Fingerprints on a bulb will permanently damage it. Push the bulb into place until it is seated. Rotate 90° until two distinct clicks are heard.

6. **DX Coil Only** - Plug all unused openings.
If the unit has a DX coil, all openings in the cooling coil module for line connections must be used or plugged. If any openings are unused, remove the factory-installed grommet and replace it with the appropriate size hole plug provided in the plastic parts bag. See **FIGURE 4**.
7. Test bulb. Wear safety glasses and cover skin. Standing as far away as possible, turn power on to the light and depress door interlock switch. If bulb glows with a blue hue, turn off power. If bulb does not glow, turn off the power and find the cause.



Instructions (cont'd)

Check the wiring and the switches or replace the bulb. Retest and check until light operates properly.

- Close the doors and turn on power to the unit.

Operation

Ultra-violet lamp should be operated continuously from its power source. Lamp should not be connected to indoor fan power source or any power source where lamps would be cycled more than twice a day.

While lit, the bulb color should be light blue. If bulb color changes to red or flickers, replace the bulb. Bulbs that are not light blue will not emit ultra-violet radiation and will not kill harmful bacterial or fungi.

Fiberglass filter media is recommended for filters exposed to ultra-violet light. Polyester or cotton filters are subject to ultra-violet degradation and are not recommended.

Maintenance and Service

Disconnect all power before performing any maintenance or service.

Bulbs need periodic replacement to maintain design specifications. Replace bulbs after 6000 hours of operation or one year, whichever comes first. For best performance, replace bulbs at the beginning of each cooling season.

Output can also be checked with a UVC radiometer. Replace bulb when output falls to 70% of initial reading.

CAUTION

Use only specified high output, low temperature bulbs with this fixture. Use of a lower wattage or incorrect bulb can result in damage to fixture or bulb.

See table below for replacement bulb P/N's. Other bulbs may plug into the fixture but they should not be used. Non-approved bulbs will overheat bulb and power source. Normal operating temperature for the bulb is 80°F; normal operating temperature for the power source is 125°F.

Replacement Parts

Description	75/100	125/150	175/200/225	250/300/350/400
UVC Bulb, Steril-Aire #GTD VO	220440	220441	(2) 220440	(2) 220442
	22" (559mm)	34" (864mm)	22" (559mm)	40" (1016mm)
Light Fixture, 115/208/230V, Steril-Aire #DE-	220434	220435	(2) 220434	(2) 220436
	241VO	361VO	241VO	421VO
Blower Door Interlock Safety Switch - All Sizes, P/N 217262				

Troubleshooting

Symptom	Recommended Action (in order of priority)
Bulb does not light.	1. Turn off power. Wait 10 minutes and turn power on.
	2. Replace bulb (see P/N's above). Recommend bulb(s) be replaced at the beginning of every cooling season.
	3. Check line voltage.
	4. Check wiring to the bulb.
	5. Replace power supply.
Low output radiometer reading or visibly weak light.	1. Replace bulb (see P/N's above).
	2. Check line voltage.
	3. Checking wiring to bulb.
Red/orange light.	1. Check ambient temperature. If the temperature is at or below 35°F, bulb is too cold to operate properly.
	2. If ambient temperature is above 35°F, see "low output" above.